Muhammad Ahmad Bashir (Curriculum Vitae)

Postdoctoral Research Fellow
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Research Interests

Security and privacy on web/mobile; internet measurement; limiting fraud and abuse

Education

2014-2019   **Doctor of Philosophy** in Computer Science - *Northeastern University*

            Thesis: *On the Privacy Implications of Real Time Bidding* advised by Christo Wilson

2008-2012   **Bachelor of Science** in Computer Science - *LUMS, School of Science and Engineering*

Employment History

Oct 2019 - Present	International Computer Science Institute (**Postdoctoral Research Fellow**)
Jun 2018 - Aug 2018	International Computer Science Institute (**Research Intern**)
June 2017 - Sep 2017	Facebook Inc. (**Threat Infrastructure, Security Engineering Intern**)
May 2016 - Aug 2016	Facebook Inc. (**Online Safety, Security Engineering Intern**))
Oct 2012 - Jan 2013	Max Planck Institute for Software Systems, Germany (**Research Intern**)

Honors and Awards

2018	Best Student Paper Award (**FPF Privacy Papers for Policymakers**)
2015	Best Paper Award (**Conference on Online Social Networks**)
2015	Best Paper Award (**Conference on Security and Cryptography**)
2012	Research Intern Fellowship (**Max Planck Institute for Software Systems**)
2011	Winner (**Ericsson – PTA Mobile Excellence Award**)
2011	Winner (**FPF Privacy Papers for Policymakers**)

Teaching Experience

Fall 2018	Teaching Assistant / Guest Lecturer (**CS3700- Networks and Distributed Systems**)
Spring 2018	Teaching Assistant / Guest Lecturer (**CS2550- Foundations of Cybersecurity**)
Spring 2013	Teaching Assistant (**CS585: Service Oriented Computing**)
Fall 2012	Teaching Assistant (**CS582: Distributed Systems**)
Spring 2012	Teaching Assistant (**CS380: Databases**)

Selected Publications

IMC '19 **A Longitudinal Analysis of the ads.txt Standard**

- A 15-month long study analyzing the adoption of the `ads.txt` standard by Alexa-100K websites.

NDSS '19 **Quantity vs. Quality: Evaluating User Interest Profiles Using Ad Preference Managers**

- First large-scale study of the "interests" inferred by ad networks using Ad Preference Managers.
- We investigate how these interests were inferred and how useful they were according to the users.

IMC '18 **How Tracking Companies Circumvented Ad Blockers Using WebSockets**

- First large-scale study of the "interests" inferred by ad networks using Ad Preference Managers.
- We investigate how these interests were inferred and how useful they were according to the users.

PETS '18 **Diffusion of User Tracking Data in the Online Advertising Ecosystem**

- We model how user tracking data propagates in the advertising ecosystem because of RTB.
- We model the efficacy of ad and tracker blocking extensions at protecting users' privacy.

IMC '16 **Recommended For You: A First Look at Content Recommendation Networks**

- First look at how content (ads and recommendations) is served by CRNs.
- Highlights the inconsistencies in how the content is served and calls for stronger regulations.

USENIX '16 **Tracing Information Flows Between Ad Exchanges Using Retargeted Ads**

- Proposes a generic methodology to detect information sharing between ad networks.
- Detects 31% of cookie matching partners which were missed by prior methods.

COSN '15 **Strength in Numbers: Robust Tamper Detection in Crowd Computations**

- Detection of large-scale (Sybil-tampered) crowd computations in Online Social Networks.
- Dataset consists of roughly 300M Twitter users and 30K businesses with 341K reviews from Yelp.

USENIX '14 **Towards Detecting Anomalous User Behavior in Online Social Networks**

- Detection of anomalous identities, using PCA, on Facebook used in diverse attack strategies.
- Includes a case study on Facebook Ads to detect anomalous clicks.

Ongoing Work

1. **Cross Device Tracking**
   - A comprehensie study of the state of cross-device tracking and the underlying mechanisms used.
2. **SDKs & Android Permissions**
   - A methodological way of examining which SDK requested which Android perimssion.
3. **Consent Management Platforms**
   - A study on consent management platforms in EU-based websites.

Technical Skills

- **Programming Languages:** Python, Java, Hack, C++, Javascript, SQL, PHP
- **Web Development:** HTML5, Selenium, Nodejs, Apache/Nginx Web Servers
- **Tools:** Spark, Weka, Matlab, BPEL